

PATENT
450100-02925AMENDMENTS TO THE CLAIMS

Claim 1. (original) A diagnostic system, comprising:

first communication means provided on a user side of a virtual living thing which exists as software and is programmed so as to act or behave as programmed;

second communication means provided on a service providing side which provides a service to diagnose the condition of said software of said virtual living thing or the condition of hardware keeping said virtual living thing; and

a communication line for connecting said first and second communication means, and wherein:

said first communication means transmits, to said second communication means through said communication line, data for diagnosis necessary for diagnosing the condition of said software of said virtual living thing or the condition of said hardware keeping said virtual living thing; and

said second communication means analyzes said data for diagnosis, which is given from said first communication means, and diagnoses said condition of said software of said virtual living thing or said condition of said hardware keeping said virtual living thing, on the basis of the analysis result.

Claim 2. (original) The diagnostic system according to claim 1, wherein:

said second communication means transmits said diagnosis result to said first communication means through said communication line; and

said first communication means comprises display means to visually display said diagnosis result, which is given from said second communication means.

PATENT
450100-02925

Claim 3. (original) The diagnostic system according to claim 1, wherein:

said virtual living thing has at least one of a transition probability model which is obtained by modeling transition of generating actions and behaviors of the virtual living thing, a feeling model which is obtained by modeling change of feeling of the virtual living thing, and a growth model which is obtained by modeling the growth of the virtual living thing, and on the basis of the external condition, the internal condition and/or the operation from outside, the transition probabilities corresponding to said transition probability model, parameter values corresponding to said feeling model, and/or the current growth step of the virtual living thing in said growth model are changed as necessity;

said first communication means transmits to said second communication means, each of said transition probabilities of said transition probability model, each of said parameter values of said feeling model, and/or a growth step value expressing the current growth step in said growth model, as said data for diagnosis for diagnosing said condition of said software of said virtual living thing; and said communication means analyzes each of said transition probabilities of said transition probability model, each of said parameter values of said feeling model, and/or said growth step value, and diagnoses the character of said virtual living thing as said condition of said virtual living thing on the basis of the analysis result.

Claim 4. (original) The diagnostic system according to claim 3, wherein said second communication means:

PATENT
450100-02925

transmits question data to said first communication means, to ask said user of said virtual living thing how to breed the virtual living thing, after diagnosing said character of the virtual living thing;

performs predetermined counseling processing on the basis of said user's answers to the questions, which are transmitted from said first communication means, and said data for diagnosis of the virtual living thing; and

transmits to said first communication means, the counseling result indicating how to breed the virtual living thing, which is obtained through the counseling processing.

Claim 5. (original) The diagnostic system according to claim 1, wherein:

said second communication means transmits a problem diagnostic program which is a computer program to diagnose the condition of said hardware keeping said virtual living thing;

said first communication means examine if said hardware keeping said virtual living thing has any problems, and transmits the examination result to said second communication means; and

said second communication means analyzes the examination result, which is transmitted from said first communication means, and diagnoses the presence or absence of problem as said condition of said hardware keeping the virtual living thing.

Claim 6. (original) The diagnostic system according to claim 5, wherein said second communication means informs a predetermined service center of data related to a problem and/or necessary data including the serial number of said virtual living thing which is

PATENT
450100-02925

obtained via said first communication means, in the case where said hardware keeping the virtual living thing has the problem.

Claim 7. (original) The diagnostic system according to claim 5, wherein said second communication means transmits a destination of a repair request to said first communication means when said hardware keeping said virtual living thing has a problem.

Claim 8. (original) A diagnostic method, comprising:
a first step of transmitting data for diagnosis necessary for diagnosing the condition of software of a virtual living thing or the condition of hardware keeping the virtual living thing, from a first communication means provided on a user side of the virtual living thing which exists as software and is programmed so as to act or behave, to a second communication means provided on a service providing side which provides a service to diagnoses the condition of said software of the virtual living thing or the condition of the hardware keeping the virtual living thing; and

a second step of, using said second communication means, analyzing said data for diagnosis, which is given from said first communication means, and diagnosing said condition of said software of said virtual living thing or said condition of said hardware keeping said virtual living thing, on the basis of the analysis result.

Claim 9. (original) The diagnostic method according to claim 8, comprising a third step of transmitting said diagnosis result to said first communication means through said communication line from said second communication means, and visually displaying said

PATENT
450100-02925

diagnosis result, which is obtained from said second communication means, with said first communication means.

Claim 10. (original) The diagnostic method according to claim 8, wherein:

said virtual living thing has at least one of a transition probability model which is obtained by modeling transition of generating actions and behaviors of the virtual living thing, a feeling model which is obtained by modeling change of feeling of the virtual living thing, and a growth model which is obtained by modeling the growth of the virtual living thing, and on the basis of the external condition, the internal condition and/or the operation from outside, the transition probabilities corresponding to said transition probability model, parameter values corresponding to said feeling model, and/or the current growth step of the virtual living thing in said growth model are changed as necessity;

said first step is to transmit each of said transition probabilities of said transition probability model, each of said parameter values of said feeling model, and/or a growth step value representing the current growth step in said growth model, to said communication means as said data for diagnosis for diagnosing said condition of said software of said virtual living thing; and

said second step is to analyze each of said transition probabilities of said transition probability model, each of said parameter values of said feeling model, and/or said growth step value and to diagnoses the character of said virtual living thing as said condition of said virtual living thing on the basis of the analysis result.

PATENT
450100-02925

Claim 11. (original) The diagnostic system according to claim 10, wherein said second step comprises:

a question data transmitting step of transmitting question data to said first communication means, to ask said user of said virtual living thing how to breed the virtual living thing, after diagnosing said character of the virtual living thing;

a counseling processing step of performing predetermined counseling processing on the basis of said user's answers to the questions, which are transmitted from said first communication means, and said data for diagnosis of the virtual living thing; and

a counseling result transmitting step of transmitting to said first communication means, the counseling result indicating how to breed the virtual living thing, which is obtained through the counseling processing.

Claim 12. (original) The diagnostic method according to claim 10, wherein said first step comprises:

a problem diagnostic program transmitting step of transmitting a problem diagnostic program which is a computer program to diagnose the condition of said hardware keeping said virtual living thing;

an examining step of examining if said hardware keeping said virtual living thing has any problems, on the basis of the problem diagnostic program; and

an examination result transmitting step of transmitting the examination result to said second communication means; and

PATENT
450100-02925

said second step is to analyze the examination result, which is transmitted from said first communication means, and to diagnose the presence or absence of problem as said condition of said hardware keeping the virtual living thing.

Claim 13. (original) The diagnostic method according to claim 12, wherein said second step comprises an informing step of informing a predetermined service center of data related to a problem and/or necessary data including the serial number of said virtual living thing which is obtained via said first communication means, in the case where said hardware keeping the virtual living thing has the problem.

Claim 14. (original) The diagnostic method according to claim 12, wherein said second step comprises a repair-request-destination informing step of transmitting a destination of a repair request to said first communication means when said hardware keeping said virtual living thing has a problem.

Claims 15-17. (canceled)

Claim 18. (currently amended) The diagnostic ~~device~~ system according to claim 15, wherein:

said virtual living thing has at least one of a transition probability model which is obtained by modeling transition of generating actions and behaviors of the virtual living thing, a feeling model which is obtained by modeling change of feeling of the virtual living thing, and a growth model which is obtained by modeling the growth of the virtual living thing, and on the

PATENT
450100-02925

basis of the external condition, the internal condition and/or the operation from outside, the transition probabilities corresponding to said transition probability model, parameter values corresponding to said feeling model, and/or the current growth step of the virtual living thing in said growth model are changed as necessity;

said ~~analyzing~~ second communication means acquires each of said transition probabilities of said transition probability model, each of said parameter values of said feeling model, and/or a growth step value representing the current growth step in said growth model, as said data for diagnosis for diagnosing said condition of said software of said virtual living thing, from said hardware or said storage medium, and analyzes each of said transition probabilities of said transition probability model, each of said parameter values of said feeling model, and/or said growth step value; and

said second communication ~~diagnosing~~ means diagnoses the character of said virtual living thing as said condition of said virtual living thing.

Claims 19-25. (canceled)

Claim 26. (currently amended) The diagnostic ~~method~~ system according to claim ~~23~~1, wherein:

said virtual living thing has at least one of a transition probability model which is obtained by modeling transition of generating actions and behaviors of the virtual living thing, a feeling model which is obtained by modeling change of feeling of the virtual living thing, and a growth model which is obtained by modeling the growth of the virtual living thing, and on the basis of the external condition, the internal condition and/or the operation from outside, the

PATENT
450100-02925

transition probabilities corresponding to said transition probability model, parameter values corresponding to said feeling model, and/or the current growth step of the virtual living thing in said growth model are changed as necessity;

wherein said second communication means performs said first step is to acquire each of said transition probabilities of said transition probability model, each of said parameter values of said feeling model, and/or a growth step value representing the current growth step in said growth model, as said data for diagnosis for diagnosing said condition of said software of said virtual living thing, and analyze obtained each of said transition probabilities of said transition probability model, each of said parameter values of said feeling model, and/or said growth step value; and said a second step is to diagnose the character of said virtual living thing as said condition of said virtual living thing on the basis of analysis result.

Claims 27-30. (canceled)

Claim 31. (original) A diagnostic system, comprising:

first communication means provided on a user side of a robot apparatus;

second communication means provided on a service providing side which provides a service to examine hardware or software of said robot apparatus; and

a communication line for connecting said first and second communication means, and

wherein:

said first communication means transmits data for diagnosis necessary for diagnosing the condition of said hardware or said software of said robot apparatus, to said second communication means through said communication line; and

PATENT
450100-02925

said second communication means analyzes said data for diagnosis, which is given from said first communication means, and diagnoses said condition of said hardware or said software of said robot apparatus, on the basis of the analysis result.

Claim 32. (original) The diagnostic system according to claim 31, wherein:

said second communication means transmits said diagnosis result to said first communication means through said communication line; and

said first communication means comprises display means for visually displaying said diagnosis result, which is obtained from said second communication means.

Claim 33. (original) The diagnostic system according to claim 31, wherein:

said robot apparatus has at least one of a transition probability model which is obtained by modeling transition of generating actions and behaviors of the robot apparatus, a feeling model which is obtained by modeling change of feeling of the robot apparatus, and a growth model which is obtained by modeling the growth of the robot apparatus, and on the basis of the external condition, the internal condition and/or the operation from outside, the transition probabilities corresponding to said transition probability model, parameter values corresponding to said feeling model, and/or the current growth step of the robot apparatus in said growth model are changed as necessity;

said first communication means transmits each of said transition probabilities of said transition probability model, each of said parameter values of said feeling model, and/or a growth step value representing the current growth step in said growth model, as said data for

PATENT
450100-02925

diagnosis for diagnosing said condition of said software of said robot apparatus, to said second communication means; and

said second communication means analyzes each of said transition probabilities of said transition probability model, each of said parameter values of said feeling model, and/or said growth step value, and diagnoses the character of said robot apparatus as said condition of said robot apparatus on the basis of the analysis result.

Claim 34. (original) The diagnostic system according to claim 33, wherein:

said second communication means:

transmits question data to ask said user of said robot apparatus how to breed the robot apparatus, to said first communication means, after diagnosing said character of said robot apparatus; and

performs predetermined counseling processing on the basis of said user's answers to the questions, which are transmitted from said first communication means, and said data for diagnosis of the robot apparatus, and transmits the counseling result, obtained through the counseling processing, indicating how to breed the robot apparatus, to said first communication means.

Claim 35. (original) The diagnostic system according to claim 31, wherein:

said second communication means transmits a problem diagnostic program which is a computer program to diagnose the condition of said hardware of said robot apparatus;

PATENT
450100-02925

said first communication means examine if said hardware of said robot apparatus has any problems, on the basis of the problem diagnostic program, and transmits the examination result to said second communication means; and

said second communication means analyzes the examination result, which is transmitted from said first communication means, and diagnoses the presence or absence of a problem on the basis of the analysis result as said condition of said hardware of said robot apparatus.

Claim 36. (original) The diagnostic system according to claim 35, wherein said second communication means informs a predetermined service center of data related to a problem and/or necessary data including the serial number of said robot apparatus, which is obtained via said first communication means, in the case where said hardware keeping said robot apparatus has the problem.

Claim 37. (original) The diagnostic system according to claim 35, wherein said second communication means transmits a destination of a repair request to said first communication means in the case where said hardware of said robot apparatus has a problem.

Claim 38. (original) A diagnostic method, comprising:
a first step of transmitting data for diagnosis necessary for diagnosing the condition of said software or said hardware of a robot apparatus, from first communication means provided on a user side of the robot apparatus, to second communication means provided on a service providing side which provides a service to diagnosis the condition of the hardware or the software of the robot apparatus; and

PATENT
450100-02925

a second step of, using said second communication means, analyzing said data for diagnosis, which is given from said first communication means, and diagnosing said condition of said software or said hardware of said robot apparatus on the basis of the analysis result.

Claim 39. (original) The diagnostic method according to claim 38, comprising a third step of transmitting said diagnosis result to said first communication means through said communication line from said second communication means, and making said first communication means visually display said diagnosis result.

Claim 40. (original) The diagnostic method according to claim 38, wherein:
said robot apparatus has at least one of a transition probability model which is obtained by modeling transition of generating actions and behaviors of the robot apparatus, a feeling model which is obtained by modeling change of feeling of the robot apparatus, and a growth model which is obtained by modeling the growth of the robot apparatus, and on the basis of the external condition, the internal condition and/or the operation from outside, the transition probabilities corresponding to said transition probability model, parameter values corresponding to said feeling model, and/or the current growth step of the robot apparatus in said growth model are changed as necessity;

said first step is to transmit each of said transition probabilities of said transition probability model, each of said parameter values of said feeling model, and/or a growth step value representing the current growth step of the robot apparatus in said growth model, as said data for diagnosis for diagnosing said condition of said software of said robot apparatus, to said second communication means; and

PATENT
450100-02925

said second step is to analyze each of said transition probabilities of said transition probability model, each of said parameter values of said feeling model, and/or said growth step value, and diagnose the character of said robot apparatus as said condition of said robot apparatus on the basis of the analysis result.

Claim 41. (original) The diagnostic method according to claim 40, wherein:

said second step comprises:

a question data transmitting step of transmitting question data to ask said user of said robot apparatus how to breed the robot apparatus, to said first communication means, after diagnosing said character of the robot apparatus;

a counseling processing step of performing predetermined counseling processing on the basis of said user's answers to the questions, which are transmitted from said first communication means and said data for diagnosis of the robot apparatus; and

a counseling result transmitting step of transmitting the counseling result indicating how to breed the robot apparatus, which is obtained through the counseling processing, to said first communication means.

Claim 42. (original) The diagnostic method according to claim 40, wherein said first step comprises:

a problem diagnostic program transmitting step of transmitting a problem diagnostic program which is a computer program to diagnose the condition of said hardware keeping said robot apparatus, on said network to said user of said robot apparatus;

PATENT
450100-02925

an examining step of examining if said hardware of said robot apparatus has any problems, on the basis of the program diagnostic program; and

an examination result transmitting step of transmitting the examination result to said second communication means; and

said second step is to analyze the examination result, which is transmitted from said first communication means, and diagnoses the presence or absence of a problem as a condition of said hardware of said robot apparatus, on the basis of the analysis result.

Claim 43. (original) The diagnostic method according to claim 42, wherein said second step comprises an informing step of informing a predetermined service center of data related to a problem and/or necessary data including the serial number of said robot apparatus which is obtained via said first communication means, in the case where said hardware of said robot apparatus has the problem.

Claim 44. (original) The diagnostic method according to claim 42, wherein said second step comprises a repair-request-destination informing step of informing said first communication means of a destination of a repair request in the case where said hardware of said robot apparatus has a problem.

Claims 45-47. (canceled)

Claim 48. (currently amended) The diagnostic ~~device~~system according to claim 4531, wherein:

PATENT
450100-02925

said robot apparatus has at least one of a transition probability model which is obtained by modeling transition of generating actions and behaviors of the robot apparatus, a feeling model which is obtained by modeling change of feeling of the robot apparatus, and a growth model which is obtained by modeling the growth of the robot apparatus, and on the basis of the external condition, the internal condition and/or the operation from outside, the transition probabilities corresponding to said transition probability model, parameter values corresponding to said feeling model, and/or the current growth step of the robot apparatus in said growth model are changed as necessity;

said analyzing second communication means acquires each of said transition probabilities of said transition probability model, each of said parameter values of said feeling model, and/or a growth step value representing the current growth step in said growth model, as said data for diagnosis for diagnosing said condition of said software of said robot apparatus, and analyzes each of said transition probabilities of said transition probability model, each of said parameter values of said feeling model, and/or said growth step value; and

said second communication diagnosing means diagnoses the character of said robot apparatus as said condition of said robot apparatus.

Claims 49-55. (canceled)

Claim 56. (currently amended) The diagnostic method according to claim ~~53~~38, wherein:

said robot apparatus has at least one of a transition probability model which is obtained by modeling transition of generating actions and behaviors of the robot apparatus, a feeling

PATENT
450100-02925

model which is obtained by modeling change of feeling of the robot apparatus, and a growth model which is obtained by modeling the growth of the robot apparatus, and on the basis of the external condition, the internal condition and/or the operation from outside, the transition probabilities corresponding to said transition probability model, parameter values corresponding to said feeling model, and/or the current growth step of the robot apparatus in said growth model are changed as necessity;

said first step is to acquire each of said transition probabilities of said transition probability model, each of said parameter values of said feeling model, and/or a growth step value representing the current growth step in said growth model, as said data for diagnosis for diagnosing said condition of said software of said robot apparatus, and analyze each of said transition probabilities of said transition probability model, each of said parameter values of said feeling model, and/or said growth step value; and

said second step is to diagnose the character of said robot apparatus as said condition of said robot apparatus on the basis of the analysis result.

Claims 57-60. (canceled)